

I CLAIM:

1. A bag comprising a sheet of flexible, foldable material,
 - (a) wherein the sheet is coated with a metal to define a metal treated side and an untreated side;
 - (b) the sheet being folded along a longitudinal fold line with the treated side facing outwardly and the untreated side facing inwardly, and the fold line being in-folded into the bag, thus defining a gusset centered along the fold line with at least two gusseted bottom edges;
 - (c) transversely opposite side edges wherein the sheet is bonded together extending substantially perpendicular to the fold line; and
 - (d) end portions of the gusseted bottom edges comprising angled edges wherein the sheet is bonded together extending from the fold line to the side edges at a predetermined angle relative to the gusseted bottom edge.
2. The bag according to claim 1, wherein the predetermined angle is between 30-60 degrees.
3. The bag according to claim 2, wherein the predetermined angle.
4. The bag according to claim 1, wherein the angled edges end where a side edge meets the fold line.
5. The bag according to claim 1, wherein apertures are provided proximal to a top edge of the bag.
6. The bag according to claim 1, wherein the sheet is folded to also define an exposed portion proximal to a top edge of the bag.
7. The bag according to claim 1, wherein the flexible foldable material is a thermoplastic.
8. The bag according to claim 1, wherein the sheet is coated with aluminum.
9. A method for manufacturing a bag using a sheet of flexible, foldable material comprising the steps of:

- (a) coating one side of the sheet with metal defining a treated side and an un-treated side;
 - (b) folding the sheet along a fold line such that the treated side faces outwards;
 - (c) creating a gusset centered along the fold line by in-folding at the fold line, thus defining gusseted bottom edges and a gusset depth in a direction substantially perpendicular to the fold line;
 - (d) making "V" shaped cuts through the gusset, at predetermined intervals in a direction parallel to the fold line, such that the corner of the "V" shape is positioned at a pre-determined length from the gusseted bottom edge and the sides of the "V" shape extends towards and end at the gusseted bottom edges;
 - (e) bonding the sheet together at adjacent edges cut in step (d) that have un-treated sides facing each other;
 - (f) cutting along a line starting at said corner of each "V" shaped cut and extending in a direction substantially perpendicular to the fold line and ending at a top edge of the bag; and
 - (g) bonding the sheet together at adjacent edges cut in step (f).
10. The method according to claim 9, wherein steps (d) and (e) are performed simultaneously.
11. The method according to claim 9, wherein steps (f) and (g) are performed simultaneously.
12. The method according to claim 9, wherein steps (d), (e), (f) and (g) are performed simultaneously.
13. The method according to claim 9, wherein the "V" shape forms about a ninety degree angle.
14. The method according to claim 9, wherein the tip of the "V" shape is positioned a gusset depth's length from the gusseted bottom edges.
15. The method according to claim 9, wherein the flexible foldable material is a thermoplastic.
16. The method according to claim 9, wherein the sheet is coated with aluminum.

17. A bag of flexible, foldable material manufactured according to the method of claim 9.
18. A machine for simultaneously making a cut and sealing resulting edges on a sheet of flexible material comprising:
 - (a) a heated block;
 - (b) a blade, disposed to produce "V" shaped cuts, coupled to and extending outwards from a top surface of the heated block;
 - (c) a lower plate (i) disposed over the heated block, (ii) provided with a hole the shape of and slightly larger than the blade and disposed to receive the blade, and (iii) spring loaded for motion in a direction perpendicular to the top surface of the heated block;
 - (d) an upper plate (i) disposed over the lower plate, (ii) capable of motion in a direction perpendicular to the top surface of the heated block, to press on the lower plate such that the blade passes through the hole and contacts the upper plate.
19. The apparatus according to claim 18, wherein the heated block comprises separable cast metal layers machined to hold a replaceable heating means.
20. The apparatus according to claim 18, wherein the lower plate comprises a metal stripper plate and an insulating plate attached to a top surface of the stripper plate.
21. The apparatus according to claim 18, wherein the upper plate comprises a metal clamp plate and a resilient surface on an underside of the clamp plate.
22. The apparatus according to claim 18, wherein the blade is disposed to produce "Y" shaped cuts.
23. The apparatus according to claim 18, wherein the flexible material is a thermoplastic.
24. The apparatus according to claim 18, wherein the upper plate is pneumatically driven in a direction perpendicular to the top surface of the heated block.